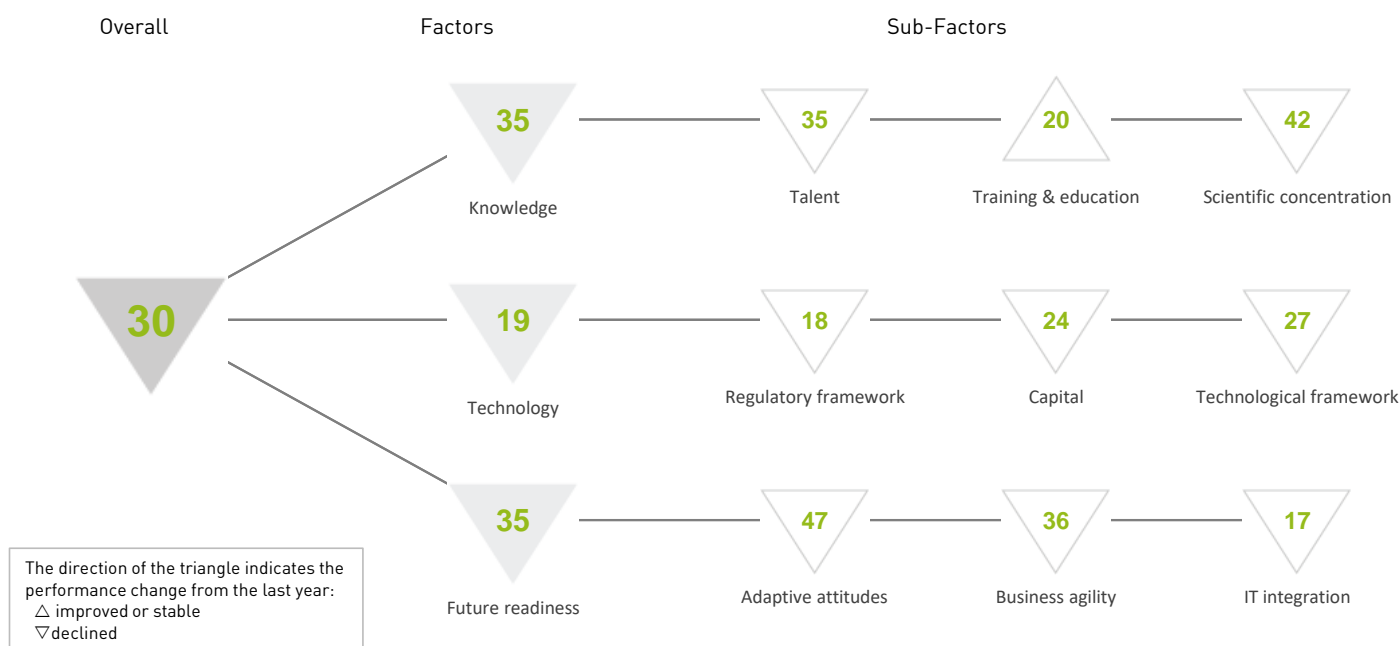


LUXEMBOURG

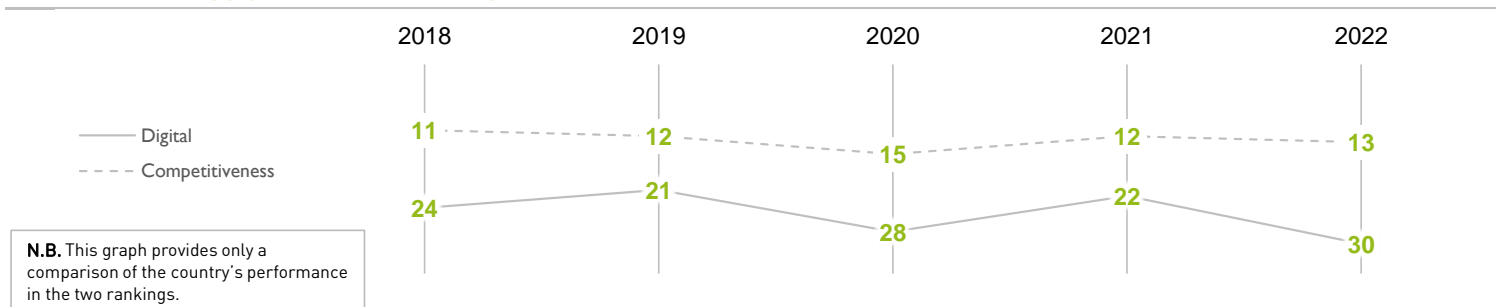
OVERALL PERFORMANCE (63 countries)



OVERALL & FACTORS - 5 years

	2018	2019	2020	2021	2022
OVERALL	24	21	28	22	30
Knowledge	32	34	35	29	35
Technology	15	12	17	14	19
Future readiness	21	17	27	24	35

COMPETITIVENESS & DIGITAL RANKINGS

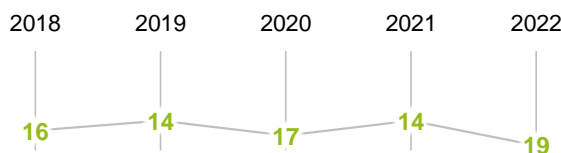


PEER GROUPS RANKINGS

EUROPE - MIDDLE EAST - AFRICA (40 countries)



POPULATIONS < 20 MILLION (36 countries)



LUXEMBOURG

▶ Overall Top Strengths

▷ Overall Top Weaknesses

KNOWLEDGE

Sub-Factors	2018	2019	2020	2021	2022
Talent	33	31	39	33	35
Training & education	26	24	23	20	20
Scientific concentration	44	42	41	38	42

Talent	Rank	Training & education	Rank	Scientific concentration	Rank
Educational assessment PISA - Math	31	Employee training	29	Total expenditure on R&D (%)	38
International experience	08	Total public expenditure on education	31	Total R&D personnel per capita	11
Foreign highly-skilled personnel	07	Higher education achievement	10	Female researchers	50
Management of cities	13	Pupil-teacher ratio (tertiary education)	09	▷ R&D productivity by publication	60
Digital/Technological skills	38	Graduates in Sciences	51	Scientific and technical employment	19
▷ Net flow of international students	59	Women with degrees	11	High-tech patent grants	24
				Robots in Education and R&D	-

TECHNOLOGY

Sub-Factors	2018	2019	2020	2021	2022
Regulatory framework	09	04	08	08	18
Capital	04	09	15	08	24
Technological framework	35	34	35	25	27

Regulatory framework	Rank	Capital	Rank	Technological framework	Rank
Starting a business	34	▶ IT & media stock market capitalization	02	Communications technology	19
Enforcing contracts	17	Funding for technological development	32	▷ Mobile Broadband subscribers	53
Immigration laws	11	Banking and financial services	46	Wireless broadband	29
Development & application of tech.	20	▶ Country credit rating	01	▶ Internet users	05
Scientific research legislation	20	Venture capital	40	Internet bandwidth speed	06
Intellectual property rights	15	▷ Investment in Telecommunications	62	▷ High-tech exports (%)	54

FUTURE READINESS

Sub-Factors	2018	2019	2020	2021	2022
Adaptive attitudes	29	22	48	38	47
Business agility	17	20	34	22	36
IT integration	13	06	16	12	17

Adaptive attitudes	Rank	Business agility	Rank	IT integration	Rank
E-Participation	52	Opportunities and threats	50	E-Government	30
Internet retailing	-	World robots distribution	-	Public-private partnerships	28
Tablet possession	-	Agility of companies	30	Cyber security	24
Smartphone possession	-	Use of big data and analytics	46	▶ Software piracy	04
Attitudes toward globalization	38	Knowledge transfer	24	Government cyber security capacity	36
		Entrepreneurial fear of failure	20	▶ Privacy protection by law content	04